

Title (en)

A high efficiency boost topology with two outputs

Title (de)

Aufwärtswandler-topologie mit hohem Wirkungsgrad und zwei Ausgängen

Title (fr)

Topologie de convertisseur élévateur avec haute rendement et deux sorties

Publication

EP 0714160 A3 19970129 (EN)

Application

EP 95308139 A 19951114

Priority

US 34430994 A 19941122

Abstract (en)

[origin: US5764037A] A split boost converter is disclosed herein, suitable for both single phase and three phase AC input applications. It provides two equal but unparallelable output voltages stored on two separate independent output capacitors. The implementation supports two modes of operation in which two power switches are operated simultaneously or alternately. Each mode maintains the advantage of a reduced boost inductor size. In the first mode the charging of the capacitors in parallel circuits and their discharge in a series connection substantially reduces ripple current in the inductor permitting the user of a smaller inductor. In the second mode the capacitors are charged and discharged in differing time intervals achieving a similar result. The circuit is operable with input voltages which must exceed the voltages of its two output capacitors.

IPC 1-7

H02M 3/155

IPC 8 full level

H02J 1/00 (2006.01); **H02M 1/00** (2007.01); **H02M 1/42** (2007.01); **H02M 3/158** (2006.01)

CPC (source: EP US)

H02M 1/4208 (2013.01 - EP US); **H02M 3/158** (2013.01 - EP US); **H02M 1/009** (2021.05 - EP US); **Y02B 70/10** (2013.01 - EP US); **Y02P 80/10** (2015.11 - EP US)

Citation (search report)

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- [A] EP 0297545 A2 19890104 - HITACHI LTD [JP]
- [DA] JIANG, LEE: "Three-level boost converter for and its application in single phase power factor correction", VIRGINIA POWER ELECTRONICS CENTER (VPEC) POWER ELECTRONICS SEMINAR PROCEEDINGS, 1994, BLACKSBURG, US, pages 127 - 133, XP000610958

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CN112087150A; CN113162410A; CN104022640A; AT412920B; EP0814559A3; AT412376B; AT412377B; CN112087139A; EP0821469A1; FR2751804A1; US6046916A; WO2014036512A1

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DOCDB simple family (publication)

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